

Express Mail No.: EB 270750868 US

WHAT IS CLAIMED:

1-39. (Cancelled)

40. (New) A method for recognizing a structure to be applied onto a substrate, the structure at least one of an adhesive line and an adhesive trail, having at least one camera, comprising:

acquiring by means of a single scan of a reference application structure a teach-in of the reference application structure;

storing a sequence of camera images of said reference application structure; and
recording a strip of the image to form a part of a sequence of images.

41. (New) The method according to Claim 40, wherein the recording comprises increasing an image recording rate proportional with a data reduction achieved by recording a strip of the image.

42. (New) The method according to Claim 40, further comprising processing a scan of the applied structure as an optical representation.

43. (New) The method according to Claim 40, further comprising joining the sequence of image strips into a single image.

44. (New) The method according to Claim 40, wherein the recording comprises utilizing approximately one quarter of the image lines from each camera as the image strip, wherein said image recording rate is quadrupled.

45. (New) The method according to Claim 40, wherein the method further comprising:
obtaining from the reference application structure a sequence of images during the single recording run of the plurality of cameras; and
parameterizing the sequence of images by means of a one-time external marking of the

Express Mail No.: EB 270750868 US

reference application structure compared to an applied adhesive trail.

46. (New) The method according to Claim 45, wherein said parameterization comprises a robot travel path, a robot travel time, a direction, a width and a quality of an adhesive trail.

47. (New) The method according to Claim 40, wherein the method further comprising an assessment function to analyze an adhesive agent track, wherein the assessment function comprises a fuzzy assessment.

48. (New) The method according to Claim 47, wherein a calculation by means of the assessment function is determined by at least one of a width of a pair of edges comprising a right and a left edge of the adhesive trail, a mean gray scale value of a projected gray scale value profile between the pair of edges, an edge contrast, and a position of the progression of the adhesive trail.

49. (New) The method according to Claim 40, wherein an edge of the adhesive trail is determined on a surrounding track, said surrounding track is approximately a circular line comprising a circular caliper, wherein the adhesive trail progresses within the surrounding track.

50. (New) The method according to Claim 49, wherein a center of a circular line approximately coincides with a site from which an adhesive emanates to form the adhesive trail.

51. (New) The method according to Claim 49, wherein each camera monitors at least a segment of at least one of a circle and an orbit formed by the circular line.

52. (New) The method according to Claim 40, wherein each camera monitors at least one overlapping area with at least one adjacent camera.

53. (New) The method according to Claim 49, wherein a segment of the circular line is assigned to the images of the individual cameras the angle values of the circular line range from 0° to 360° and comprise a global coordinate system.

Express Mail No.: EB 270750868 US

54. (New) The method according to Claim 53, wherein a first camera covers at least a range of angles between -10° to 130°, a second camera covers at least a range of angles between 110° to 250°, and a third camera covers at least a range of angles between 230° to 10°.

55. (New) The method according to Claim 51, wherein one camera automatically switches to the next camera when the adhesive trail progresses from the segment of the circular line at one camera via an overlapping area to the segment of the circular line of a different camera.

56. (New) The method according to Claim 40, wherein the method further comprises utilizing a plurality of light emitting diodes (LEDs) to illuminate the application structure with a color that is a suitable contrast to the color of the application structure.

57. (New) The method according to Claim 56, wherein the LEDs comprise at least one of an infrared light emitting diodes (LEDs), an ultra-violet (UV) LEDs (UV LEDs) and a Red-Green-Blue (RGB) LEDS wherein to flash the LEDs, a plurality pulses of current ranging in duration from 1.0 to 0.01ms are applied to the LEDs.

58. (New) The method according to Claim 40, wherein the method further comprises determining a reference contour utilizing at least two cameras to perform a three-dimensional positional correction for the application facility by means of a stereometry procedure.

59. (New) The method according to claim 58, wherein the two cameras record an image comprising at least one of a full image and a large image of at least one of a substrate, a section of a component, and a plurality of components.

60. (New) The method according to claim 59, wherein the images comprise an overlapping area in a leading direction.

61. (New) The method according to claim 58, further comprises adjusting the application facility prior to applying the structure by utilizing the three-dimensional recognition of the reference contour position by at two cameras.

Express Mail No.: EB 270750868 US

62. (New) The method according to Claim 58, wherein a projection is made onto the area of the reference contour for a three-dimensional analysis, wherein a plurality of laser lines are applied to the substrate to form a projection.

63. (New) The method according to Claim 40, wherein the method further comprises utilizing ,a calibrating device having marker points located at 0°, 120°, and 240° of a circular arc to calibrate the cameras, wherein the individual cameras are calibrated in order to assign an angle assignment.

64. (New) The method according to Claim 40, wherein the method further comprises measuring a distance from a facility for application of the structure to a component to perform a positional test of the applied structure, wherein a line-shaped gray scale value scan is used for distance measurement.

65. (New) An apparatus for recognizing a structure to be applied onto a substrate, the structure comprising an adhesive line or adhesive trail, comprising:

an illumination module; and

a sensor unit having a plurality of cameras, wherein the cameras are configured around a facility for applying the structure, wherein the cameras form an essentially circular caliper whose center is formed approximately by a facility for application of the structure, and each camera is configured to be directed at the circle around the application facility whose center point approximately coincides with the center point of the application facility.

66. (New) The apparatus according to Claim 65, wherein each camera records a strip of an image to form a part of a sequence of images and the images of all the cameras are stored as a sequence of images.

67. (New) The apparatus according to Claim 65, wherein the apparatus comprises three cameras, the cameras are configured to be arranged at equal distances from each other in the direction of a circumference such that the axial longitudinal axis of the individual cameras

Express Mail No.: EB 270750868 US

approximately intersects the axial longitudinal axis of the application facility in a direction of view.

68. (New) The apparatus according to Claim 65, wherein said apparatus is configured to increase an image recording rate, said image recording rate increased in proportion to a data reduction achieved by recording a strip of the image.

69. (New) The apparatus according to Claim 65, wherein the image strips of the individual cameras are joined into a single image in order to teach-in the reference application structure and to compare the reference application structure to an applied adhesive trail.

70. (New) The apparatus according to Claim 65, wherein the individual cameras comprise at least one of an overlapping area of at least 10° relative to the next camera and an overlapping area of at least 30° to 90° relative to an adjacent camera.

71. (New) The apparatus according to Claim 65, wherein the illumination module comprises light emitting diodes (LEDs), wherein said LEDs comprise an infrared LED, an ultraviolet (UV) LEDs and Red-Green-Blue (RGB) LEDs, the LEDs are configured to flash by sending a plurality of pulses of current ranging from 1.0 to 0.01 ms.

72. (New) The apparatus according to Claim 65, wherein the apparatus further comprises a calibrating device to calibrate the individual cameras for an assignment of an angle assignment, the calibrating device having individual form elements, wherein said form elements are configured at an angle distance of approximately 10°.

73. (New) The apparatus according to Claim 72, wherein the calibrating device comprises at least three marker sites, said marker sites are arranged in a circular arc located at 0°, 120°, and 240°.

74. (New) The apparatus according to Claim 73, wherein the marker sites are configured by at least two form elements and said marker sites are located on a circular line, wherein said

Express Mail No.: EB 270750868 US

marker sites extend in an angle range of approximately 10°.

75. (New) The apparatus according to Claim 65, wherein a projection facility is provided on the application facility, said projection facility projects at least one feature onto the substrate for a three-dimensional analysis, wherein the projection facility projects at a strip onto the substrate.

76. (New) The apparatus according to Claim 75, wherein the projection facility emits at least one laser line for a three-dimensional profile analysis.